IN THE CLAIMS:

Please cancel claims 4, 8, 12 and 14 without prejudice or disclaimer, amend claims 1 and 7 as follows:

1. (Currently Amended) A perpendicular magnetic recording medium, comprising:

a substrate;

a soft magnetic underlayer formed on said substrate and containing ferromagnetic α-Fe nanocrystals;

a nonmagnetic intermediate layer formed on said soft magnetic underlayer; and

a perpendicular recording layer formed on said intermediate layer, wherein

said soft magnetic underlayer contains Fe, Ta and C, and a concentration of said Ta ranges from 8 at % to 15 at %, and

a nonmagnetic amorphous or nanocrystalline pre-coating layer is provided between said substrate and said soft magnetic underlayer, said pre-coating layer comprising at least one selected from the group consisting of NiZr alloy, NiTa alloy, NiNb alloy, NiTaZr alloy, NiNbZr alloy, CoCrZr alloy, NiCrZr alloy.

2. (Original) The perpendicular magnetic recording medium according to claim 1, wherein a ratio of the concentration of Ta to a concentration of C (Ta concentration/C concentration) ranges from 0.5 to 0.9.

3-4. (Cancelled)

5. (Original) The perpendicular magnetic recording medium according to claim 1, wherein in-plane coercivity Hc (298K) of said soft magnetic underlayer is 1 Oe or less and in-plane coercivity Hc (173K) of said soft magnetic underlayer is 3 Oe or more, the in-plane coercivity Hc (298K) being measured while applying magnetic field along a head running direction at a temperature of 298 K, and the in-plane coercivity Hc (173K) being measured while applying magnetic field along the head running direction at a temperature of 173 K.

6. (Original) The perpendicular magnetic recording medium according to claim 2,

wherein in-plane coercivity Hc (298K) of said soft magnetic underlayer is 1 Oe or less and in-plane coercivity Hc (173K) of said soft magnetic underlayer is 3 Oe or more, the in-plane coercivity Hc (298K) being measured while applying magnetic field along a head running direction at a temperature of 298 K, and the in-plane coercivity Hc (173K) being measured while applying magnetic field along the head running direction at a temperature of 173 K.

7. (Currently Amended) A magnetic storage apparatus, comprising:

the perpendicular magnetic recording medium comprising:

a substrate;

a soft magnetic underlayer formed on said substrate and containing ferromagnetic α-Fe nanocrystals;

a nonmagnetic intermediate layer formed on said soft magnetic underlayer; and

a perpendicular recording layer formed on said intermediate layer, wherein

said soft magnetic underlayer contains Fe, Ta and C, and a concentration of said Ta ranges from 8 at % to 15 at %, and

a nonmagnetic amorphous or nanocrystalline pre-coating layer is provided between said substrate and said soft magnetic underlayer, said pre-coating layer comprising at least one selected from the group consisting of NiZr alloy, NiTa alloy, NiNb alloy, NiTaZr alloy, NiNbZr alloy, CoCrZr alloy, NiCrZr alloy;

a driving section for driving said perpendicular magnetic recording medium in a recording direction;

a magnetic head having a recording section and a reproduction section;

a unit for allowing said magnetic head to relatively move with respect to said perpendicular magnetic recording medium; and a recording/reproduction processing unit for receiving a signal of said magnetic head and reproducing an output signal from said magnetic head, wherein

the reproduction section of said magnetic head is constituted by a high sensitivity element utilizing a magnetoresistance effect or a tunneling magnetoresistive effect.

8. (Cancelled)

9. (Previously Presented) The perpendicular magnetic recording medium according to claim 1, wherein a concentration of said C is 12 at % or more.

10. (Original) The perpendicular magnetic recording medium according to claim 1, wherein said soft magnetic underlayer is provided with ferromagnetic α-Fe nanocrystals by annealing.

11. (Original) The perpendicular magnetic recording medium according to claim 2, wherein said soft magnetic underlayer is provided with ferromagnetic α-Fe nanocrystals by annealing.

12. (Cancelled)

13. (Original) The magnetic storage apparatus according to claim 7, wherein said soft magnetic underlayer is provided with ferromagnetic α-Fe nanocrystals by annealing.

14. (Cancelled)

15. (New) The perpendicular magnetic recording medium according to claim 1, wherein said soft magnetic underlayer is provided with ferromagnetic α-Fe nanocrystals by annealing at 450°C or more while said pre-coating layer remaining amorphous or nanocrystalline.

16. (New) The perpendicular magnetic recording medium according to claim 1, wherein said ferromagnetic *a*-Fe nanocrystals have particle diameters of approximately 10 nm

17. (New) The magnetic storage apparatus according to claim 7, wherein said soft magnetic underlayer is provided with ferromagnetic α-Fe nanocrystals by annealing at 450°C or more while said pre-coating layer remaining amorphous or nanocrystalline.

18. (New) The magnetic storage apparatus according to claim 7, wherein said ferromagnetic *a*-Fe nanocrystals have particle diameters of approximately 10 nm